

CLAIMS

WHAT IS CLAIMED IS:

1. A sunburn treatment comprising:  
a carrier to be applied to cutaneous inflammation caused by exposure to  
5 ultraviolet radiation;  
at least one polypeptide including an amino acid sequence selected from a group  
consisting of KPV (SEQ. ID. NO. 1), MEHFRWG (SEQ. ID. NO. 2), HFRWGKPV  
(SEQ. ID. NO. 3), SYSMEHFRWGKPV (SEQ. ID. NO. 4), or a biologically functional  
equivalent of any of the foregoing;  
10 wherein the at least one polypeptide is at a level to effectively treat the cutaneous  
inflammation; and  
wherein the carrier carries the at least one polypeptide.
2. The sunburn treatment of claim 1 wherein the at least one polypeptide includes a  
dimer formed from any amino acid sequence in the group in claim 1.
- 15 3. The sunburn treatment of claim 2 wherein the dimer is a KPV dimer.
4. The sunburn treatment of claim 1 wherein the amino acid sequence KPV (SEQ.  
ID. NO. 1), HFRWGKPV (SEQ. ID. NO. 3), or SYSMEHFRWGKPV (SEQ. ID. NO. 4)  
is located at the C-terminal of the at least one polypeptide.
5. The sunburn treatment of claim 1 wherein the amino acid sequence KPV (SEQ.  
20 ID. NO. 1), MEHFRWG (SEQ. ID. NO. 2), HFRWGKPV (SEQ. ID. NO. 3),  
SYSMEHFRWGKPV (SEQ. ID. NO. 4), includes at least one amino acid in the D-form.
6. The sunburn treatment of claim 1 wherein the at least one polypeptide is N-  
acetylated or C-amidated or both.
7. The sunburn treatment of claim 1 wherein the carrier is a cream, an ointment, a  
25 balm, an aerosol foam, an aerosol spray, a pump spray, a gel, a stick, or a liquid.
8. The sunburn treatment of claim 7 wherein the carrier includes a skin soothing  
ingredient.

9. The sunburn treatment of claim 8 wherein the skin soothing ingredient is aloe vera, tocopheryl acetate, menthol, camphor, eucalyptus oil, calamine or any combination thereof.

10. The sunburn treatment of claim 8 wherein the skin soothing ingredient is aloe vera.

11. The sunburn treatment of claim 9 wherein the carrier further includes a topical anesthetic.

12. The sunburn treatment of claim 11 wherein the topical anesthetic is lidocaine hydrochloride.

13. The sunburn treatment of claim 7 wherein the carrier includes a topical anesthetic.

14. The sunburn treatment of claim 13 wherein the topical anesthetic is selected from the group consisting of lidocaine hydrochloride, benzocaine, pramoxine hydrochloride, or any combination thereof.

15. The sunburn treatment of claim 13 wherein the topical anesthetic is lidocaine hydrochloride.

16. The sunburn treatment of claim 14 wherein the carrier further includes a skin soothing ingredient.

17. The sunburn treatment of claim 16 wherein the skin soothing ingredient is aloe vera.

18. The sunburn treatment of claim 7 wherein the carrier includes a skin soothing ingredient and a topical anesthetic.

19. The sunburn treatment of claim 7 wherein the carrier includes a skin soothing ingredient that is aloe vera, tocopheryl acetate, menthol, camphor, eucalyptus oil, calamine or any combination thereof; and

a topical anesthetic that is lidocaine hydrochloride, benzocaine, pramoxine hydrochloride, or any combination thereof.

20. The sunburn treatment of claim 7 wherein the carrier includes aloe vera and lidocaine hydrochloride.

21. A sunburn treatment kit comprising:

a liquid impermeable packaging;

an absorbent material;

a carrier for application to cutaneous inflammation caused by exposure to ultraviolet radiation;

5 (at least one polypeptide including an amino acid sequence selected from a group consisting of KPV (SEQ. ID. NO. 1), MEHFRWG (SEQ. ID. NO. 2), HFRWGKPV (SEQ. ID. NO. 3), SYSMEHFRWGKPV (SEQ. ID. NO. 4), or a biologically functional equivalent of any of the foregoing;

10 wherein the at least one polypeptide is at a level to effectively treat the cutaneous inflammation;

wherein the carrier carries the at least one polypeptide; and

wherein the carrier is applied to the cutaneous inflammation by the absorbent material.

22. The sunburn treatment kit of claim 21 wherein the at least one polypeptide includes a dimer formed from any amino acid sequence in the group in claim 21.

23. The sunburn treatment kit of claim 22 wherein the dimer is a KPV dimer.

24. The sunburn treatment kit of claim 21 wherein the amino acid sequence KPV (SEQ. ID. NO. 1), HFRWGKPV (SEQ. ID. NO. 3), or SYSMEHFRWGKPV (SEQ. ID. NO. 4) is located at the C-terminal of the at least one polypeptide.

25. The sunburn treatment kit of claim 21 wherein the amino acid sequence KPV (SEQ. ID. NO. 1), MEHFRWG (SEQ. ID. NO. 2), HFRWGKPV (SEQ. ID. NO. 3), SYSMEHFRWGKPV (SEQ. ID. NO. 4), includes at least one amino acid in the D-form.

26. The sunburn treatment kit of claim 21 wherein the at least one polypeptide is N-acetylated or C-amidated or both.

27. The sunburn treatment kit of claim 21 wherein the carrier is a cream, an ointment, a balm, a gel, or a liquid.

28. The sunburn treatment kit of claim 27 wherein the carrier includes a skin soothing ingredient.

29. The sunburn treatment kit of claim 28 wherein the skin soothing ingredient is aloe vera, tocopheryl acetate, menthol, camphor, eucalyptus oil, calamine or any combination thereof.

30. The sunburn treatment kit of claim 28 wherein the skin soothing ingredient is aloe vera.

31. The sunburn treatment kit of claim 29 wherein the carrier further includes a topical anesthetic.

32. The sunburn treatment kit of claim 31 wherein the topical anesthetic is lidocaine hydrochloride.

33. The sunburn treatment kit of claim 27 wherein the carrier includes a topical anesthetic.

34. The sunburn treatment kit of claim 33 wherein the topical anesthetic is lidocaine hydrochloride, benzocaine, pramoxine hydrochloride, or any combination thereof.

35. The sunburn treatment kit of claim 33 wherein the topical anesthetic is lidocaine hydrochloride.

36. The sunburn treatment kit of claim 34 wherein the carrier further includes a skin soothing ingredient.

37. The sunburn treatment kit of claim 34 wherein the skin soothing ingredient is aloe vera.

38. The sunburn treatment kit of claim 27 wherein the carrier includes a skin soothing ingredient and a topical anesthetic.

39. The sunburn treatment kit of claim 27 wherein the carrier includes a skin soothing ingredient that is aloe vera, tocopheryl acetate, menthol, camphor, eucalyptus oil, calamine or any combination thereof; and

a topical anesthetic that is lidocaine hydrochloride, benzocaine, pramoxine hydrochloride, or any combination thereof.

40. The sunburn treatment kit of claim 27 wherein the carrier includes aloe vera and lidocaine hydrochloride.

41. A method of treating sunburn comprising:

applying a carrier to cutaneous inflammation caused by exposure to ultraviolet radiation;

using at least one polypeptide including an amino acid sequence selected from the group consisting of KPV (SEQ. ID. NO. 1), MEHFRWG (SEQ. ID. NO. 2),  
5 HFRWGKPV (SEQ. ID. NO. 3), SYSMEHFRWGKPV (SEQ. ID. NO. 4), or a biologically functional equivalent of any of the foregoing;

wherein the at least one polypeptide is at a level to effectively treat the cutaneous inflammation; and

wherein the carrier carries the at least one polypeptide.

10 42. The method of claim 41 wherein the at least one polypeptide includes a dimer formed from any amino acid sequence in the group in claim 41.

43. The method of claim 42 wherein the dimer is a KPV dimer.

44. The method of claim 41 wherein the amino acid sequence KPV (SEQ. ID. NO. 1), HFRWGKPV (SEQ. ID. NO. 3), or SYSMEHFRWGKPV (SEQ. ID. NO. 4) is located at  
15 the C-terminal of the at least one polypeptide.

45. The method of claim 41 wherein the amino acid sequence KPV (SEQ. ID. NO. 1), MEHFRWG (SEQ. ID. NO. 2), HFRWGKPV (SEQ. ID. NO. 3), SYSMEHFRWGKPV (SEQ. ID. NO. 4), includes at least one amino acid in the D-form.

46. The method of claim 41 wherein the at least one polypeptide is N-acetylated or C-amidated or both.  
20

47. The method of claim 41 wherein the carrier is a cream, an ointment, a balm, an aerosol foam, an aerosol spray, a pump spray, a gel, a stick, or a liquid.

48. The method of claim 47 wherein the carrier contains a skin soothing ingredient.

49. The method of claim 48 wherein the skin soothing ingredient is aloe vera, tocopheryl acetate, menthol, camphor, eucalyptus oil, calamine, or any combination thereof.  
25

50. The method of claim 48 wherein the skin soothing ingredient is aloe vera.

51. The method of claim 49 wherein the carrier further includes a topical anesthetic.

52. The method of claim 51 wherein the topical anesthetic is lidocaine hydrochloride.

53. The method of claim 47 wherein the carrier contains a topical anesthetic.
54. The method of claim 53 wherein the topical anesthetic is lidocaine hydrochloride, benzocaine, pramoxine hydrochloride or any combination thereof.
55. The method of claim 53 wherein the topical anesthetic is lidocaine hydrochloride.
- 5 56. The method of claim 54 wherein the carrier further includes a skin soothing ingredient.
57. The method of claim 56 wherein the skin soothing ingredient is aloe vera.
58. The method of claim 47 wherein the carrier contains a skin soothing ingredient and a topical anesthetic.
- 10 59. The method of claim 47 wherein the carrier includes a skin soothing ingredient that is aloe vera, tocopheryl acetate, menthol, camphor, eucalyptus oil, calamine or any combination thereof; and a topical anesthetic that is lidocaine hydrochloride, benzocaine, pramoxine hydrochloride, or any combination thereof.
- 15 60. The method of claim 47 wherein the carrier contains aloe vera and lidocaine hydrochloride.
61. A method of preventing sunburn comprising:  
applying a carrier to skin to be exposed to ultraviolet radiation;  
using at least one polypeptide including an amino acid sequence selected from the  
20 group consisting of KPV (SEQ. ID. NO. 1), MEHFRWG (SEQ. ID. NO. 2), HFRWGKPV (SEQ. ID. NO. 3), SYSMBHFRWGKPV (SEQ. ID. NO. 4), or a biologically functional equivalent of any of the foregoing;  
wherein the at least one polypeptide is at a level to effectively prevent cutaneous inflammation due to exposure to ultraviolet radiation; and  
25 wherein the carrier carries the at least one polypeptide.
62. The method of claim 61 wherein the at least one polypeptide includes a dimer formed from any amino acid sequence in the group in claim 61.
63. The method of claim 62 wherein the dimer is a KPV dimer.

64. The method of claim 61 wherein the amino acid sequence KPV (SEQ. ID. NO. 1), HFRWGKPV (SEQ. ID. NO. 3), or SYSMEHFRWGKPV (SEQ. ID. NO. 4) is located at the C-terminal of the at least one polypeptide.

65. The method of claim 61 wherein the amino acid sequence KPV (SEQ. ID. NO. 1), MEHFRWG (SEQ. ID. NO. 2), HFRWGKPV (SEQ. ID. NO. 3), SYSMEHFRWGKPV (SEQ. ID. NO. 4), includes at least one amino acid in the D-form.

66. The method of claim 61 wherein the at least one polypeptide is N-acetylated or C-amidated or both.

67. The method of claim 61 wherein the carrier is a cream, an ointment, a balm, an aerosol foam.